Potential Failure Modes Workshop
January 29, 2004

PFMA Process – What Has Worked Well and Suggested Improvements

IN REVISING, PUT IN A WAY TO ID CHANGES

C- Positive - PFMs in tables Need full description of Failure Mode which may not be possible in table, tables may be useful to supplement for quick overview but must not supplant a full description; consider Eugene's table as a suggestion; pictures as support as a suggestion, more guidance on format get a copy of a report from training session or post some good ones to post on web (CEII session) Cache Creek? , PFMA stand alone Gets circulated as a separate doc so needs to be ?,
Improvements – repeated sections and info Will handle with comments from group.

Include sketches as applicable as part of description of failure mode can be photo of what was on flip chart
Brief description of proj req'd in PFMA
Because PFMA and P12 are stand alone they need brief descrip. STI should have a more complete description. If proj is modified the original description in PFMA report will tell us what existed during the PFMA process

L- Review of material beforehand worked well for IPC

L **Location of PFMA – Is meeting onsite important? Review material beforehand or together as a team?**

Goal – All team members have to have an understanding of the project. Material must be read. PFMA must include a site inspection.
"Locking in the room" may be necessary and promotes good teamwork and useful discussions.
At-Site – important input from site people and operations.

Needs on site project viewing and discussion with field personnel Meeting can be else where depending upon available facilities

L **Feedback from FERC on Early Submittals?**

Generally good reports are being submitted. Will do a more detailed review and inform.

FERC will hold additional meetings similar to this one and provide feedback from FERC internal review team – consider east and west coast meeting Comments and suggestions and improvements from FERC would be helpful
Have example reports to use for format

L **Clear expectations for the Core Team are very important**
Clear statement on why we are here, what the end product is, define the categories, make sure all team members have same understanding.

Comments on 4 categories?
Eliminate 4, move to "other considerations".
Include all possible FM somewhere for historical records.

Need to improve descriptions of candidate potential failure modes – if don't get positive and neg comments that become "other consid" if go through positive/adverse a rating is req'd.
If not credible then a 4
Require identification of core team members and other team members
Include a description of full team in Step 1 Chap 14 p12
Include some suggestions on how you can utilize and ID people used by phone

PFMA-Part 12D-FERC Inspection Timing
Part 12D inspection right after PFMA is valuable
Separate Part 12D and PFMA for some of the results to sink in.
Fatigue factor may play into multiple PFMA
Part 12D can be done with Major Findings and Understanding
Check guidelines and make sure there's no conflict in either way Need to coordinate it op/p12 insp

More guidance on what material to collect for Core Team?
Everything you have! Provide a list of examples – have a discussion re diff between office and field settings
Require a list of docs be provided prior to session?

Get Facilitator and IC to advise on data collection. Put a comment in chapter

Core team must get opportunity to read anything they want to read.

Only Facilitator, IC, FERC, Owner rep needs to read the material this is in chap

Owners are doing a great job in collecting the material.
Organization of material is very important, check everything.

If you happen to be able to find the engineer who built the project, bring him/her to the PFMA. include a comment in chap on this

Signatures on PFMA (as a participant?) Liability concerns? Signatures aren't necessary. This issue has been extensively discussed before

Achieve some level of consensus? Not necessarily – Actually achieve understanding. Understand what is going on. It is important to insure every point of view is covered in report. Include a statement to this effect

Supporting Technical Information

Add dambreak analysis to STI. Section 2.2 requires it now? Yes – Include dam break analyses if available (generally not available for dams where IDF = PMF). Describe the important parameters, description, results.

Construction history for older projects
- Honest effort to collect and review available information

Clarify what we are looking for in operation information/procedures
- STI primarily summaries
- FERC will provide outline

Use examples, call your local office, use meetings to provide feedback

INCLUDE SOME IDEAS ON TALKING WITH OPERATORS DURING PFMA ABOUT OPERATIONAL ISSUES

INCLUDE COMMENTS ON HAVING REMOTE SYSTEM OPERATOR IN SESSION

STIs are tending to be a lot larger than expected
- STI should be Substantive but concise. CDs that contain all detailed information are good appendixes

Keep STI a control document, living document, keep updated that doesn't need to be redone every Part 12D cycle. In there

Correspondence Section ? SEE COMMENTS IN STI

Subsequent Part 12D could include electronic STI FERC is working on this

Any major findings or updates should be timely added to STI MAKE SURE GUIDEANCE IS N THERE

Reminders for STI reprints (every 15 years)? CHECK THIS IN CHAP 14

3 project descriptions required-PFMA, Chapter 2, and STI? already covered

QA/QC for STI
- All STI holders should keep it current

Table of Contents for each section No

FERC Inspection Reports?
No

A good Appendix D supports an easy effort for the STI

Cost of Reports
- Part 12D – 30K, PFMA-30K
- Is post-PFMA STI less expensive?
- What is it that FERC wants, summaries or all the details?
- Doubling costs is ballpark
- PFMA, STI are one shot deals and updated as necessary
- PFMA, STI expensive but has value to owner
- FERC supplemental Part 12D significant costs
- Value to owner if all the detail records and analyses are included

Cost of Reports (cont)
- FERC should reconcile STI and licensing Appendix F
- STI should be on CDs as PDF files, FERC is working on accepting electronic filings.
- A lot of effort going through old records and deciding what should be included, construction records and photos

STI should be document that contains substantive information. Whatever the owner needs should be in there.

STIs done by ICs before PFMA, familiarizes IC with details of projects has some advantages.

Keep all sections. If some thing is N/A so state. Can clean out a whole section by N/Aing the whole section. If putting in something that is not included in outline add to bottom of applicable section

PART 12D REPORT

Format - Conclusions after each section aren't necessary.

FINDINGS AND RECs RIGHT UP FRONT

Summary of recommendations in Executive Summary and Section 8 are redundant

Add brief one paragraph on project history Para 2.1 part of it put a comment in chap

Section 4 – Active instrumentation – add Figure showing locations. YES already req'd

Executive Summary – Is there a need?

- Insurance
- Management
- Just put what you are going to do.
- Management is just interested in recommendations
- Move recommendations to Section 1
- Findings and Recommendations in front of the report
- Remove section 8

Part 12D Outline – Post on Web the latest dated version will do with a record Outline doesn't need to be in report – just put date

Big improvement in conciseness

Are the PFMAs resulting in reduced, better focused, more efficient monitoring effort?

- In some cases, yes.
- 15% of Reclamation's 150 dams reduced monitoring. 85% has increased surveillance.
- It is the IC job to identify/recommend reduced monitoring.
- Most important instrumentation-reservoir gage, TW

Why were EAPs eliminated ?

- Consultants were not comfortable with responsibility to review EAP.
- There is another review process on EAPs, among Owner, Emergency Management Agencies, FERC. Felt it was covered.
- Does EAP accurately reflect the current dam break analysis.
- Will be an additional effort.
- Make it optional?
- EAP is a main source of project information.

Should we put EAP review back in?

- NO!

Tunnels, Low Level Outlets

- A Water Conveyance Guideline is in preparation.
- IC can recommend the need for inspection/evaluation of water conveyance structures.
- Need to expand the Gate Testing Program beyond Tainter Gates to all important gates?

DSPMP at Federal Projects

If integral w/dam should be coordinated with dam owner and involved in the process.

American Municipal Power, Huntington District, Ohio River Division – Lock and Dam No.1 – Ford Motor. St. Paul District